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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,060	05/26/2006	Sandrine Dulac	007035.00008	1280
22908 7590 06/22/2010 BANNER & WITCOFF, LTD. TEN SOUTH WACKER DRIVE SUITE 3000 CHICAGO, IL 60606			EXAMINER SAVAGE, JASON L	
			ART UNIT 1784	PAPER NUMBER
			MAIL DATE 06/22/2010	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/596,060

**Applicant(s)**

DULAC ET AL.

**Examiner**

JASON L. SAVAGE

**Art Unit**

1784

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 May 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-6,8-12,14-16 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,8-12,14-16 and 18-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4-20-10 has been entered.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4-6, 8-12 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda (JP 200303132) in view Shinji et al (JP 08-120389 English Machine Translation).

Ueda teaches an aluminum core material comprising Y between 0.05-1.0% and other elements such as Mn, Ti, Zr, V, Ni, Co and other elements within the ranges claimed with the balance being Al which would be in an amount well over 80% (abs). Ueda further teaches that a core alloy of 3003 aluminum was used and that erosion control elements were added individually and in combination to measure the erosion of the core (par [0023-0027]). 3003 aluminum has a nominal composition comprising Cu

between 0.05-0.2%, Si 0.6%, Fe 0.7%, Mn 1.0-1.5% and Zn 0.10% which are all elements which may be employed in the claimed aluminum alloy and all fall within the claimed ranges for each element. Furthermore, Ueda's Sample No. 9 and 10 exemplify embodiments wherein the erosion control element is Y in amounts of 0.04 and 0.12 respectively which would meet the claimed alloy composition of the present invention.

Ueda further recites that the core metal is coated with a brazing aluminum alloy such as Al-Si with Si being between 6-13.5% by weight (abs). Ueda is silent to the brazing alloy containing one of the claimed elements however it teaches that the braze alloy may contain other elements in a range which does not check an effect of the recited invention such as Mg in an amount of 0.5-2.5% (par[0011]).

Shinji teaches an aluminum core material have a surface layer comprising a brazing selected from alloys such as Al-Si, Al-Si-Mg and Al-Si-Mg-Bi alloys (claim 7). Shinji further teaches that a variety of brazing alloys may be applied to the aluminum core such as those typically used for brazing/wax material such as the Al-Si-Mg-Bi alloy (par[0028]). It would have been obvious to one of ordinary skill in the art at the time of the invention to have employed a typical brazing alloy such as an Al-Si-Mg-Bi alloy for the brazing material for the aluminum core of Ueda with a reasonable expectation of success since they are known to be useful as brazing alloy materials. Regarding the limitation that the recited element modify the surface tension of the alloy, Bi would inherently have the same ability to modify the surface tension of the alloy as that claimed by Applicant.

Regarding the limitation in claim 1 that the aluminum strip or sheet is suitable for fluxless brazing under a controlled atmosphere of nitrogen, the limitation is drawn to an intended use. The coated aluminum core of Ueda as modified by Shinji would be just as suitable for use in a fluxless brazing under a controlled atmosphere of nitrogen as the article claimed by Applicant since they both comprise the same aluminum core and brazing alloy as claimed.

Regarding claims 2 and 11-12, Ueda recites the silicon content in the brazing alloy overlaps and anticipates the range claimed.

Regarding claims 4 and 14, Ueda teaches the brazing alloy may be clad by rolling with the basic aluminum core (par[0023]).

Regarding claims 5, 8-10 and 15-16, Ueda is silent to the braze part comprising particles which are possibly coated by a polymer. However, it is known to provide brazing materials in the form of particles which may include a resin as a binder. It would have been obvious to one of ordinary skill in the art to have provided the brazing alloy in any conventional and known form including as particles and/or in a resin binder with a reasonable expectation of success. Regarding the limitation in claim 6 that the brazed part is made by fluxless brazing under a controlled atmosphere, the claims are drawn to an article, not the method of making. Absent a teaching of the criticality or showing of unexpected results of how the product formed by the recited method would differ from the product formed by the method of the prior art, it would not provide a patentable distinction. Furthermore, as recited above, due to the addition of Mg to the

braze alloy, the use of flux is not necessary and the use of a vacuum would be a controlled atmosphere.

Regarding claims 6-7 and 11 Ueda further teaches the yttrium content which overlaps and anticipates the claims ranged between 0.05-0.5 (abs.).

### ***Claim Rejections - 35 USC § 103***

Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Ueda (JP 200303132) in view of in view Shinji et al (JP 08-120389 English Machine Translation) as applied to claims 1-2, 4-6, 8-12 and 14-17 above, further in view of Baba et al. (JP 58-040495).

The prior art teaches what is set forth above but is silent that Bi may be added to the core alloy of Ueda. Baba teaches that an aluminum core material comprising Bi between 0.005-0.3 and other elements such as Mn and Be which provides a heat exchanger component having improved corrosion resistance (abs.). The Bi content is taught to be between 0.005-0.3% which overlaps the range claimed by Applicant.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have added other known additives such as Bi as disclosed by Baba (JP 2000-303132) to the Al-Y core of Ueda (US 200303131) with a reasonable expectation of success of providing a component having enhanced corrosion resistance.

### ***Response to Arguments***

Applicant's arguments filed 4-20-10 have been fully considered but they are not persuasive.

Applicant argues that the claimed components enable manufacturing of the brazed aluminum alloy by fluxless brazing under nitrogen to proceed under good economic conditions compared to vacuum brazing especially.

Applicant provides multiple reasonings for distinguishing a process (emphasis added) of fluxless brazing performed under nitrogen compared to vacuum brazing. However, the claims are drawn to articles, not the method of using. The article of Ueda is considered to be just as 'suitable for use' in the claimed process since it comprises the same aluminum core and brazing alloy as claimed.

Applicant has provided no evidence showing that the article of Ueda would not be suitable in such a process, only that Ueda does not recognize that the recited article can be utilized in the recited process. However, as noted, the claims are drawn to the article, not the method of using.

Applicant also states that the core composition of Ueda is not aimed at having any influence on the type of brazing process. This argument is not persuasive as the claims are drawn to an article, wherein the core of Ueda has the same composition as the core of the article of the claimed invention. Whether or not the purpose for Ueda's selection of the core alloy is different from Applicant's purpose for using the recited core alloy does change the fact that the core alloy is the same as the alloy of the claimed invention.

Applicant further argues that Ueda discloses that any other elements present cannot confer any new effect and that because of this, is considered by Applicant to be a teaching away of any additional element such as Bi since it would "confer a new

effect” of modifying the surface tension. However, as has been set forth previously, Applicant’s interpretation of the disclosure in Ueda appears to be limiting and contrary to what is actually disclosed.

First, it is noted the language Applicant recites of “cannot confer any new effect” cannot be found anywhere in the disclosure of Ueda. Second, Ueda specifically recites the brazing alloy **may contain other elements** (emphasis added) in the range which **does not check an effect of this invention**. “Confer” and “check” are not equivalents, Applicant’s interpretation that “check” is the same as “confer” is not persuasive.

Next, while Applicant asserts that the addition of Bi would modify the properties of the claimed composition, no proof has been provided to demonstrate how the addition of Bi to the brazing alloy of Ueda would **check** an effect of their invention. As such, Applicant’s assertion that the cited disclosure is a teaching away from the addition of other elements, particularly when the disclosure explicitly recites the braze alloy **may contain other elements**, is not persuasive.

Applicant further argues that Shinji does not teach or suggest the process of fluxless brazing under a nitrogen atmosphere. As set forth above, the claims are drawn to articles, not the method of using. Absent evidence to the contrary, the articles formed by the prior art would be considered just as suitable for use in a fluxless brazing process under a controlled atmosphere as claimed.

Applicant also argues that since Shinji teaches a core alloy composition containing greater than 1% Cu, it would not read on the presently claimed core alloy

and it would not be suitable to employ the braze alloy composition disclosed by Shinji for a core alloy containing less than 1% Cu such as claimed.

However, it is well settled that the test of obviousness is not whether the features of one reference can be bodily incorporated into the structure of another and proper inquiry should not be limited to the specific structure shown by the references, but should be into the concepts fairly contained therein, and the overriding question to be determined is whether those concepts would suggest to one of ordinary skill in the art the modifications called for by the claims. *In re Van Beekum*, 169 USPQ 47 (CCPA 1971); *In re Bozek*, 163 USPQ 545 (CCPA 1969); *In re Richman*, 165 USPQ 509 (CCPA 1970); *In re Henley*, 112 USPQ 56 (CCPA 1956); *In re Sneed*, 218 USPQ 385 (Fed. Cir. 1983).

In response to the issue whether the reference is nonanalogous art, it has been held that the determination that a reference is from a nonanalogous art is twofold. First, one decides if the reference is within the field of the inventor's endeavor. If it is not, one proceeds to determine whether the reference is reasonably pertinent to the particular problem with which the inventor was involved, *In re Wood*, 202 USPQ 171, 174. In the instant case, both Ueda and Shinji are generally drawn to brazing aluminum alloys coated on aluminum core materials. As such, it is considered obvious to one of ordinary skill in the art to have employed other typical Al-Si system brazing alloys including Al-Si-Mg-Bi in the invention of Ueda with a reasonable expectation of success.

Applicant argues that Baba is directed to improving the corrosion behaving by creating a sacrificial anode effect for a fin material by adding Sn and that the fin does

not utilize the addition of Bi to promote the suppression of a flux when brazing under a controlled nitrogen atmosphere. This argument is not persuasive as Baba is merely provided to show that the addition of Bi to aluminum core materials for providing improved corrosion resistance is known and would have been obvious.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON L. SAVAGE whose telephone number is (571)272-1542. The examiner can normally be reached on M-F 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason Savage/  
Examiner  
6-15-10

/Timothy M. Speer/  
Primary Examiner, Art Unit 1784